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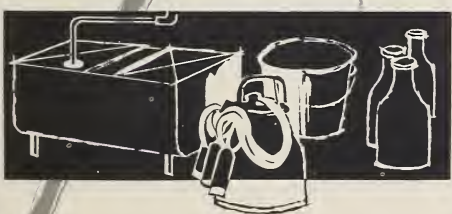
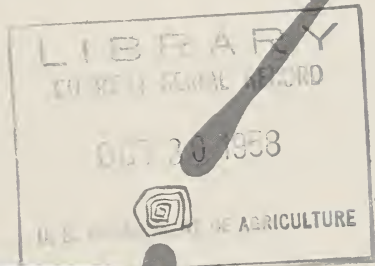
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Rural Lines

OCTOBER
1958

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE

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P88
sup 4



Beating The Clock With
ELECTROMECHANIZATION

See Page 3



Telephone Section
See page 18



A Message from the

ADMINISTRATOR

REA has for a number of years reported that its books show an excess of interest income over interest expense. At the end of 1957, it was \$48 million. Many people have the impression that this excess represents a net profit to the Treasury of the United States.

The \$48 million figure is correct as computed, all right, but it is not profit to the Treasury. Here's why. Some \$144 million of REA loan funds were directly appropriated in the early days of the program; REA has not paid any interest for the use of this money.

If interest had been charged on that \$144 million at the same rates REA paid RFC and the Treasury for other loan funds, the REA books would show a net interest loss of about \$5 million, instead of a net interest income of \$48 million. I made note of this fact in my first Report of the Administrator.

It is also true that if we were to compute the Government's cost of the money loaned to REA borrowers, the books would show a net interest loss to the Treasury of about \$32 million. This is calculated on the interest cost of all marketable securities of the Treasury.

As we discuss and make plans for the future of rural electrification, it is important, I think, that we know these facts about our past.

Rural Lines

David A. Smith

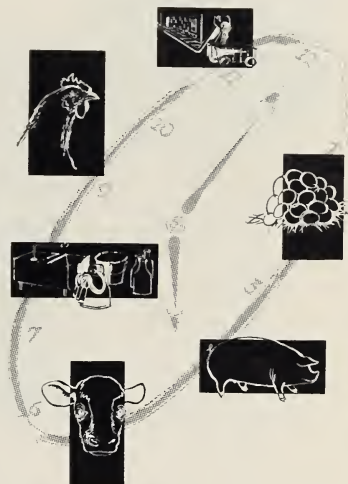
Administrator.

Editor: Hubert Kelley, Jr. This month's contributors: Kirby Able, Robert W. Eddy, Virgil Hassler, Jack Howard, Bernard Krug, Louisan Mamer, J. P. Schaezner.

Beating the Clock with ELECTROMECHANIZATION

by J. P. Schaenzer

Electro-Agricultural Engineer, REA



A DAIRYMAN milks at the rate of a cow a minute—and occasionally beats that time. Another, with a herd of 100 dairy cows, gets ready, milks, and cleans up in a little more than 2 hours. A broiler raiser, utilizing the best equipment he can buy, figures he can care for 60,000 to 80,000 chicks—without hiring any outside help. A cattle feeder buys an unloader for a vertical silo and finds that he saves, not hours, but a whole month of 50-hour work-weeks a year.

Few city people are conscious of the extent to which electrically powered farm equipment is taking over drudgery on the farm. For that matter, many farmers do not yet realize how much time machines can save them. The changes are coming along at a fast clip.

A factory that learned how to triple production per worker within a few years would consider that achievement something of a miracle. Yet that is what has happened on the U. S. dairy farm

—and it has happened *since* the introduction of machine milking.

When machine milking first came into use, one man was able to milk 20 cows an hour, using two milking units. Later, the U. S. Department of Agriculture pointed out that dairymen using only two stalls were leaving their milking units idle for three minutes between cows. When a third stall was added to get cows ready for milking, the idle time dropped to less than one minute. Before long, some individual dairymen were milking 30 cows an hour.

Recently, dairymen have managed to milk from 50 to 60 cows per hour by using a “herring-bone” type of milking parlor, with as many as 16 cows in the parlor at one time. To operate it, a dairyman simply pulls one rope to open the parlor for eight cows, then pulls one rope after another to feed them. A pull on another rope closes a gate behind them.

Next, he washes udders, strips milk from each teat into a cup and puts on the electric milkers.



Method of Cleaning (minutes per day)



It takes 7 times as long to clean a barn for a 30-cow dairy herd with a wheelbarrow as it does with electricity.

Automatic Cleaner	4.8
Semi-Automatic Cleaner	14.4
Spreader	27.6
Litter Carrier	27.9
Wheelbarrow	34.8

University of Wisconsin

When the first eight cows are milked, he turns to the cows on the other side of the parlor.

As the milk is produced, it is collected by vacuum in a small container. From there, it is pumped to a bulk milk tank for cooling, with the quantity shown in pounds on a dial for recording. A plastic bottle can be attached for securing a butterfat sample. On some models, a flashing red light warns the operator that the milk flow is nearly finished or that a teat cup has dropped off.

Another timesaver is the clean-in-place sanitary pipe, which conveys the milk from the cow to the milk cooler. A special solution is pumped through the pipe to cleanse it, and the vacuum pump produces a scrubbing effect as the alternating surges of solution and air pass through the pipe. As a result, no dirt or dust can enter the pipeline; the milk is cleaner and has a lower bacteria count.

Electromechanization is not limited to the mechanics of milk collection. With a pressure water system, for instance, water can be piped to drinking cups or bowls so that cows can drink at any time. Iowa State College has found that cows with drink-

ing water always available drink 18 percent more water than cows watered twice daily. They also produce 3.5 percent more milk and 10.7 percent more butterfat.

Water is kept free of ice at all times with stocktank water heaters or floating de-icers. Usually, the water temperature is thermostatically held between 35 and 40 degrees.

One of the toughest jobs on a dairy farm is handling materials like hay, silage, bedding, concentrates, and manure. According to the University of Massachusetts, the quantity of material handled annually for a 40-cow herd comes to 760 tons, or 19 tons per cow.

Electric motors and conveyors can relieve the dairyman of much of this labor. Silage can be automatically removed from a vertical silo and dropped directly onto a mechanical bunk feeder. Time saved with the unloader alone has been estimated at 200 hours a year. And several types of gutter cleaners have been developed, virtually eliminating one of the most arduous and disagreeable tasks in dairy farming. Michigan State University reports that it takes only 80 kilowatt-hours to remove and load 212 tons of manure a

year from a typical 35-cow barn.

Finally, many milk houses in the North are electrically heated during winter months to prevent freezing of milk and water lines. The job can be done with resistance heaters and blowers, with electrically heated water, or by using the compressor of the milk cooler as a heat pump.

As a result of these innovations, says one prominent dairy specialist, a man can milk, feed, and care for 100 cows during an 8-hour day. A hired hand on one Idaho dairy farm is in sole charge of 120 milk cows, and he works about 10 hours a day. In a year's time, he puts in about 30 hours per cow, compared with the national average of 125 hours.

Electromechanization is causing some dramatic changes in the poultry business, too. In the up-to-date laying house, birds are housed on litter, with a population as high as one bird for every square foot of floor area.

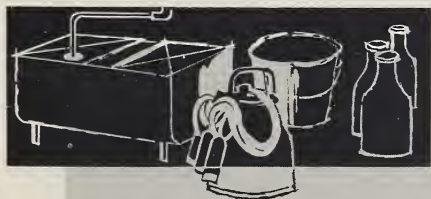
Perches, waterers, and feeders are installed, one above the other,

over a droppings pit. Several times a week, a barn cleaner removes the droppings. Forced ventilation and solar heat make for a dry house, even in damp, cold months.

Such a poultry house is also equipped with electric lights, which help provide 14 hours of illumination during the short fall and winter days. A time clock, wired into the circuit, controls the lighting period. Tests by USDA show that from December through May, hens in lighted houses produced an average of 13.6 more eggs each than those in unlighted houses.

As in the dairy business, a continuous supply of water has proved essential to high production. Researchers at Oregon State College found that pullets drank 25 percent more water during freezing weather when it was

The steady increase in milk production per cow reflects both better breeding and the application of electricity to feeding and watering.



**Average Pounds of Milk
per Cow per Year**



USDA Agricultural Marketing Service

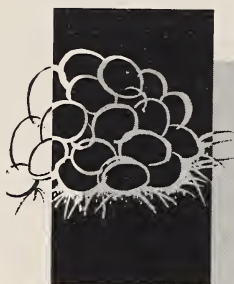
continuously available to them. Egg production increased by as much as 20 percent. And apart from the higher egg output, poultrymen who water by hand report that this chore consumes about one-third of the time they spend caring for chickens. Water supplied automatically under pressure does away with this chore forever.

More research will be needed to develop electrically operated devices to take over egg gathering, cleaning, grading, and casing. This sort of work now takes

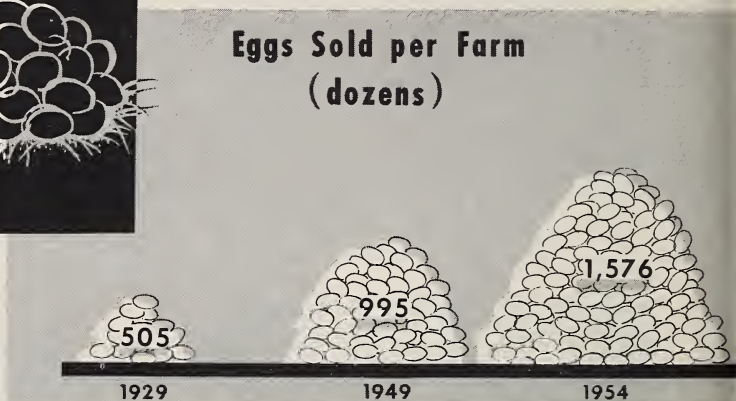
When the problem is solved, one man will be able to care for from 20,000 to 25,000 hens.

In the livestock business, electricity is being harnessed to control the environment of animals. Beyond any question, the air that the animals breathe, the humidity, the hours of sunshine, and the temperature have a direct bearing on their health and weight gains. Electricity can be used to make sure each of these factors is favorable to maximum production.

For example, the University of California has found that hogs



The increase in egg production per farm during the last 3 decades has been dramatic, but more spectacular increases are on the horizon.



Bureau of the Census, 1954

three-fourths of a poultryman's labor, even in a highly mechanized poultry house. A few of the larger poultry farms already have endless egg gathering belts, which bring the eggs from the hens to the cooling room for cleaning, candling, grading, and storage. Automatic cleaners and graders have been developed which are economical for flocks of 500 hens or more. But the big breakthrough is still in the future.

averaging 100 pounds in weight gained the next 100 pounds on less feed at temperatures between 70 and 72 degrees than at any other. At 200 pounds, they utilized feed most efficiently at 60 degrees. USDA's H. L. Garver points out that the feed savings at these controlled temperatures, when compared to the conditions found in many hog houses, would soon pay for good housing of pigs.

Garver also reports an experi-



Chickens Sold per Farm

Electro-mechanization has helped to lift per farm poultry production by nearly 800 percent.



Bureau of the Census, 1954

ment in California's Imperial Valley, in which a fan was used to blow air over a herd of beef cattle when the temperature was 100 degrees or higher. The cattle in the fanned area gained 2.3 pounds per day, versus 1.3 pounds for a similar herd without a fan.

The Oklahoma Agricultural Experiment Station has run a dif-

ferent type of experiment on 34 pregnant sows. During the summer of 1956, water sprinklers were placed over one-half of the animals. Sprinkling continued until all the animals were moved to the farrowing house in late August.

Results were impressive. The 17 sows that were sprinkled dur-

Average Number of Cattle and Calves on Farms Reporting



Bureau of the Census, 1954

Fewer farmers are raising livestock today, but each farmer is raising more animals, on the average.

ing pregnancy farrowed an average of 2.35 more live pigs per litter. They weaned an average of 2.05 more. And when litters were 56 days old, pigs from sprinkled litters weighed 85 pounds more than pigs from unsprinkled ones.

Heat lamps have been used on both baby pigs and lambs for a number of years, but their use will undoubtedly become more widespread in the future. Some 3 million pigs still are lost each year in the United States because of crushing or chilling. About 75 percent of these deaths occur before the pigs are 3 days old.

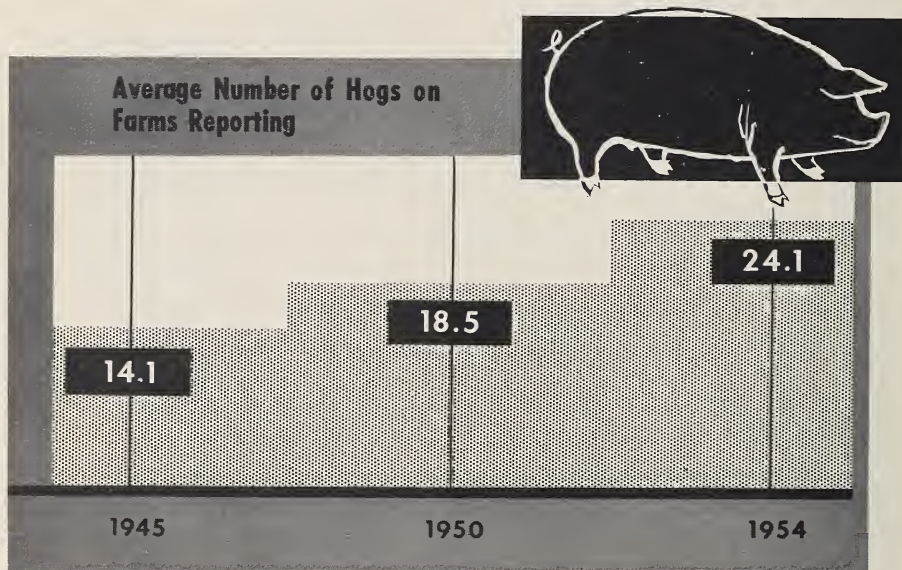
Wisconsin hog authorities state that one pig of every three farrowed in the Corn Belt is lost before weaning age. They estimate that by using a brooder for 10 days, one pig more per litter may be raised. Purdue University kept records on 105 sows which farrowed 8.5 pigs per litter. With

electric brooding they saved 1.5 more pigs per litter than without. And the University of California conducted three-year trials with electric pig brooders and found that they could reduce pig losses by one-half.

Not only are more pigs raised per litter for market with an electric pig brooder, but they can be farrowed in colder weather and earlier in the season. Being ready for market in the early fall, they usually command a higher price.

Less is known about the benefits derived from lamb brooders, but a number of raisers report that brooding newborn lambs from one to five days is proving profitable. Under the brooder, they are dry within one-half hour after birth.

All these applications of electricity to farm chores not only are lightening the farmer's burdens, but they also are helping him to produce more food with less labor.



Bureau of the Census, 1954

Applications of electricity are helping pig farmers to save more pigs per litter.

Foreground shows edge of Kotzebue, with tents and fish drying racks used by Eskimos. The communications towers in background are operated by CAA.



Pioneering Electrically in

Alaska

PIONEERING'S not what it used to be. Daniel Boone would probably flip his coonskin cap if he were in Alaska today.

On the surface, homesteading in the 49th State frequently looks much as it did in early-day Kentucky. Often as not, there is a log house in a clearing. The clearing, however, was hacked out by a bulldozer, not a broadaxe. Quick trips to town are made in a pontoon-mounted aircraft moored on a nearby lake. And the light from the log house's windows is caused by no homemade tallow candle; it is electric light from one of Alaska's REA-financed cooperatives.

Ten percent of the central station electrification in Alaska today is supplied by REA borrowers. As of June 30, 1958, nine electric cooperative had energized 1,524 miles of distribution line and were serving 16,586 con-

sumers. Headquarters range from Metlakatla, a settlement of Indian fishermen on Annette Island, almost as far south as Vancouver Island, to the Bering Sea Eskimo village of Kotzebue, which is 40 miles north of the Arctic Circle. Cooperatives serve each of the three major homestead farming areas in Alaska.

Already a telephone borrower serves one of these, the Matanuska Valley. The Matanuska Telephone Association at Palmer furnishes modern dial service to 700 pioneer farmers and other rural people and eventually will be serving a total of 931. This cooperatives' president, R. J. Haddles, gets electric service from the Matanuska Electric Cooperative.

So far, agriculture in Alaska rarely runs to big acreage. It is limited to the small urban market along the Alaska Railroad—An-



Nick Eidem, manager of the Golden Valley Electric Cooperative, (left) and Administrator Hamil trade ideas with Charles Creamer, operator of the largest dairy farm in Alaska.

chorage and Fairbanks—and to the markets on Kodiak Island and the Kenai Peninsula. The latter can be reached profitably from Homer, the only one of the three farming areas which is on the seacoast. High freight rates make shipment of produce outside Alaska impossible.

Short growing seasons and hard winters limit livestock production. The long hours of sunlight in the short northern summer do, however, help the virgin soil of the arable valleys produce vegetables which are out of this world. These are grown in the Matanuska and Suisitna Valleys, between Fairbanks and Anchorage, and at Homer, on the Kenai Peninsula. The Tanana River Valley near Fairbanks produces topnotch cereal grains.



Not parking meters but electric meters mark spaces in the faculty parking lot at the University of Alaska, near Fairbanks. Each professor is assigned an electric head-bolt heater to keep his car's engine warm on sub-zero days. The co-op reads the meter once a month.

The rural electric cooperatives are helping pave the way for bigger and better farming to furnish the food for the expanding population Alaska expects in the future.

An ex-GI from Fort Collins settled in the Matanuska Valley. He saw possibilities in the market for dairy products. Brome grass and oats grow well in the valley. With sprinkler irrigation, he can get three good cuttings of brome in the short season, and furnish roughage to a sizable dairy herd through the long winter. Another dairyman, Charles Creamer, has a herd which numbers 100 cows. According to Nick Eidem, manager of the Golden Valley Electric Association at Fairbanks, it is the biggest dairy herd in Alaska. The Golden Valley Co-op serves the Creamer farm.

Alaska is a rural land, in that its population is sparse and scattered. REA cooperatives serve fishing and mining communities in fairly remote areas.

Government installations depend on REA borrowers. The DEW line extends across Alaska. There are weather stations and Civil Aeronautics Administration communications towers throughout the new State. Airfields, Naval bases, and Coast Guard stations all receive power from REA-financed systems. An interesting consumer is the University of Alaska. Its observatory near Fairbanks has a radar research project in which sounds broadcast by electric power from the Golden Valley co-op are "bounced-off" the moon.

Alaskans take rural electrification quite seriously, and their support of and leadership of their co-ops is enthusiastic.

Take the Kotzebue Electric Association on the barren tundra coast of the Bering Sea. This co-op sells Eskimos electric freezers, where they keep their fish all year long.

Rhea M. Mullaly, Kotzebue's "sourdough" manager, raises his own vegetables with a small scale irrigation system on tundra, where permafrost is always just a few inches below the surface. Like all sourdoughs, Mullaly has had his share of adventures. He once joined a rescue party to bring back survivors of a plane crash on an ice floe.

The survivors got back all right, but shifting ice marooned Mullaly for 21 days. He managed to live those three weeks on four rabbits he caught.

This rugged pioneer type is found throughout the Kotzebue board. Men like Thomas Richards, Kotzebue native and air-plane pilot, helped found the co-operative and served as a director. Pioneer women are active in rural electrification, also Mrs. Jack Bullock, wife of one of Kotzebue's present board members, is a community leader who helped establish this cooperative.

In an age and place where air transportation is commonplace, the Alaskan today is as apt to eat packaged dry cereal for breakfast as sourdough pancakes. Refrigeration helps make his diet unlimited, too. However, he still takes pride in the title of "sourdough." It stands for the time—not yet gone, either — when Alaskans needed strength and stamina to survive, as well as independence and resourcefulness. Not the least factor in the sourdough tradition was the pile of wood and cache of food inside the never-locked cabin

Manager Rhea M. Mullaly, of the Kotzebue Electric Association, uses that hose in the foreground to bring electrically pumped water to his vegetable farm on the tundra.



door, just in case a passing stranger needed them. Alaskans make good material for co-op members.

REA Administrator David A. Hamil visited Alaska last August. He was greatly impressed with the way that Alaskans are putting rural electrification to work for them, in a land where hard manual labor, until now, has been such an important part of the area's economy.

His biggest surprise was the scenery. "I've always been proud of the mountains in my native Colorado," he said "and I still am, but the mountain ranges in Alaska are some of the most majestic sights I have ever seen. If I were 21 again, I'd think seriously about going to Alaska."



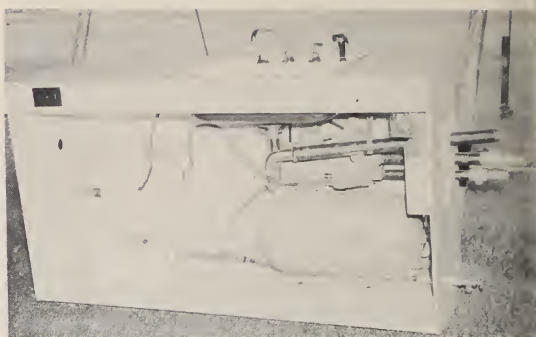
The northernmost REA-financed generating plant, located at Kotzebue, is 40 miles above the Arctic Circle.

A Portable Sink for Impermanent People

IT use to be that a family on the move tossed everything into the moving van but the kitchen sink. Now they can throw the sink in, too.

The portable sink is the brainchild of Robert C. Carroll, extension agricultural engineer with the Extension Service, at Clemson, in South Carolina. Carroll knew that in areas where tenant farming and low-income housing predominate, the head of the family is reluctant to install a permanent water system. First, it is usually too much for his budget; second, he can't take it with him.

The engineer thought about the problem for awhile and came up with a pretty good answer. He designed and put together a portable water system, consisting of a kitchen sink, a 12-gallon storage tank, and a 6-gallon electric water heater. The whole thing is self contained in a plywood cabinet and comes complete with a $\frac{3}{4}$ horsepower water pump and enough plastic pipe to run from the kitchen to a well 50 or 60 feet away from the house. The sink requires a minimum of plumbing connections, and can be moved



Pilot model of Carroll's portable sink and home water system reveals position of pump, storage tank and electric water heater.

almost as easily as an electric range.

Carroll claims that his invention will make possible running water in many farm homes now without that convenience. He demonstrated the sink at several South Carolina cooperatives and at the Clemson College Annual Farm and Home Week in August. He is now preparing sketches and a bill of materials to be distributed in the State by county agents and home demonstration workers. Plans and specifications also will be made available to the South Carolina statewide and to any dealers or manufacturers interested. Several dealers plan to offer the component parts to consumers who wish to assemble their own portable sinks.

BEFORE AND AFTER — In an effort to get display material for a County Centennial Celebration, Crow Wing Cooperative Power and Light Company, Brainerd, Minn., ran an old washing machine hunt. Member reporting machine chosen got an electric floor circulator fan valued at \$45. Winning machine is being dis-

played at the Co-op's booth at county fairs. Other articles the Co-op is trying to locate are old wood-burning ranges, kerosene lamps, and other antique kitchen ware. Contest for old models, announced in May, ended August 1 in time for use in the centennial and fair circuit.

Shot in the Arm for Co-op and Dealers

IN four months of intensified promotion, the 3,000-member Price Electric Cooperative at Phillips, Wisc., got some phenomenal results with its 1958 Rural Water System Program.

Between March 1 and June 30, 11 participating dealers sold \$65,000 worth of plumbing and water-using appliances. Co-op members bought and installed 102 water systems and 77 water heaters. And dealers say they have hot prospects for the sale of 92 more water systems and 11 more heaters.

Thanks to increased store traffic during the water system campaign, dealers also moved 15 automatic and 13 conventional washers, 26 dryers, 25 refrigerators, 21 ranges, and 14 freezers. In four months, they sold 329 items—versus 414 sold during all of 1957.

The low saturation of running water systems on farms in its area spurred Price Electric to action. At a "brainstorming" session last winter, directors and key co-op employees came up with 40 good ideas for a water system drive. In January, the board approved a year-long program.

Dealers got into the act at a

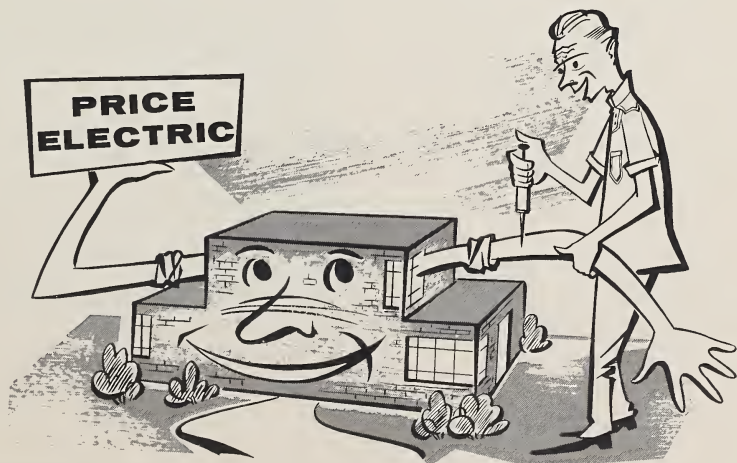
kick-off meeting and a planning meeting held during February. At the first session, which was attended by 50 people, two representatives of the National Association of Pump Manufacturers told dealers and co-op staffers some of the selling points that worked best in retailing pressure water systems.

At the second meeting, 11 dealers promised to participate and agreed to hold open houses in their stores during April and May.

Members learned of the water system drive through the Price Electric Section of the *Wisconsin REA News*. Later, Manager Erwin L. Nelson gave them more facts at district meetings. William L. McBain, co-op electrification adviser, gave a 20-minute flannelgraph presentation on running water uses at each get-together with members.

Adviser McBain feels that the open house programs, which brought several hundred members to dealer stores, were a key part of the promotion.

"Each member was notified of open houses by direct mail," he explains. "We have found that direct mail is the most effective



way of getting to our members." Each consumer received a registration card, and a list of all open house dates, locations and door prizes. Some dealers followed up with another mailing and radio or newspaper advertising.

Coffee and doughnuts were served at the stores, with dealers, manufacturers, and the co-op sharing the cost. Dealers and equipment makers shared the cost of door prizes, and consumers also registered for a couple of co-op prizes to be awarded at the next annual meeting.

Price Electric offered both dealers and members a number of incentives to take advantage of the program: (1) A \$25 award for the best dealer display at an

open house; (2) flashlights for dealers to use as door-openers in housecalls; (3) a financing plan to aid members in buying equipment. Publicity also was given to the co-op's "all electric" sign program, under which a qualifying member gets a \$25 credit on his electric bill.

"If it hadn't been for our open house," reported one dealer, "we would have had to go to the bank and borrow money to pay our bills. The campaign gave us a shot in the arm and we really appreciate it."

All over Price's service area, dealers report that business looks pretty good again. And they feel sure that the pump program did the trick.

Switch Thrown on Biggest REA-Financed Generating Unit

THE largest single generating unit ever to be financed by REA loan funds went into operation on May 31, 1958, near Lexington, Nebr.

It is the 100,000 kilowatt capacity Canaday Steam Plant, constructed by the Central Nebraska Public Power and Irrigation District. The switch was thrown in time to meet anticipated summer peaks caused by irrigation and air conditioning loads.

Power from the new plant will be sold at cost to the Nebraska Public Power System, which will make it available to Nebraska's 26 REA borrowers and to other power users, including municipalities and power agencies serving the eastern two-thirds of the State.

The Canaday Steam Plant, financed by a \$17 million REA loan, is located on Central Nebraska's supply canal north of Ber-

trand and 8 miles southeast of Lexington. It is fueled with natural gas, with a fuel oil standby.

It was named in honor of Ralph O. Canaday, chief counsel and secretary of the District.



HOW WE SOLD DEALERS ON RURAL SALES

by Kirby Able, Editor,

South Carolina Electric Co-op News

SOLID working relations between appliance dealers and cooperatives don't just happen. They have to be planned and worked for by all concerned—manufacturers, distributors, REA, and the Statewide, as well as the co-ops and dealers themselves.

Members of the South Carolina Statewide Association have found that working with appliance and equipment manufacturers, distributors and dealers means added sales of power and a higher standard of living for co-op members. The Statewide Association planned a program for dealers and the local co-ops to help them get the story across effectively to the men who would do the knock-on-doors in rural areas.

Dealer meetings weren't new in South Carolina; Statewide has held them for several years throughout the State. But when E. C. "Skip" Comer was hired last fall as a full-time Field Services Director, it meant that a concerted drive could be made to bring about bigger-and-better co-operative-dealer relations.

Early this year the Statewide Board approved a series of meetings with distributors and dealers throughout the State. That started the ball rolling.

Skip Comer and Statewide manager R. D. Bennett mapped out a campaign intended to reach all the way from the appliance

factory to the smallest crossroads dealer. They envisioned a program that would reach everybody, from the national appliance company's sales manager to the local delivery truck driver. They felt that once the appliance people fully realized the potential market existing on co-op lines, their sales effort would go into high gear.

The first step in the campaign was a session in Columbia with manufacturers and distributors. Sales problems in rural areas were discussed by the appliance people, along with power sales problems of the co-ops. The manufacturers and distributors discovered that they had a lot in common with the co-ops; they endorsed the idea of pushing for increased cooperation between their dealers and local co-ops.

It was agreed that Statewide would proceed with assisting local co-ops to set up dealer meetings, and that the distributors would urge their dealers to get acquainted with co-op people and to attend these meetings.

Skip then called on each co-op manager and helped him plan his local meeting. To insure good attendance, the co-op's technique was to make personal contact with each dealer in its service area, and then to send each dealer a written invitation to the meeting. This was followed up with *two* reminders of the meeting.

This kind of activity wasn't

confined to the co-ops. Manufacturers prodded distributors, who invited and cajoled their dealers, insisting that they show an interest in this almost-untapped rural market.

The meetings followed a general format, strictly local in nature, varied to meet local requirements. Statewide served only as coordinator, with assistance to the local co-op when requested. Statewide contributed a survey report, presented in an attractive booklet of 20 pages, which gave statistics on membership, rates, percentage of various categories of appliances in use, both for the State as a whole and for each co-op.

Nineteen dealer meetings were held in South Carolina in 1958. Seventeen of them began with a meal, varying from catfish suppers to steak dinners. This resulted in an informal atmosphere conducive to friendly acceptance of the program. As one manager remarked, the fellowship developed at his dinner was in itself worth the cost and trouble.

All told, 475 people attended the meetings, an average of 25 per meeting. Dealer representation ranged from three at one meeting to 52 at one of the larger co-ops. Success on this score didn't just happen, either.

The co-op manager served as chairman at each meeting. He welcomed the group and explained just why such a meeting was being held. He reviewed briefly the history of his co-op and its accomplishments, and spoke of the untouched market in the rural areas the co-op served.

REA Operations Field Representative Dave Millar then outlined the background of REA, the

why's and wherefore's of its existence, and its relationship to the local cooperative.

The scope of the electric cooperative program in South Carolina was discussed by the Statewide manager, who pointed out that agricultural progress was inseparable from the use of electric power on the farm. He explained the principles of the cooperative program and the social revolution it has helped bring about in rural areas.

The Statewide Field Services Director then explained the survey report, which indicated the local market for appliances and equipment (such figures always amaze dealers who tend to think the market for plumbing equipment is already saturated). He underscored the willingness of the co-op to work with dealers in placing appliances and equipment on rural lines. He reviewed co-op promotions and special offers. Each dealer representative was given a copy of the saturation survey and other literature which pointed up the potential of the rural market. He also went into detail about Statewide's Electric Fair, the 1500-seat traveling tent which Statewide leases to exhibitors each year for annual meeting display, pointing out its advantage as a promotional tool for selling appliances.

This fall the Electric Fair is making fourteen 2-day stands at annual meetings in South Carolina. Besides commercial exhibit space, it has free space for agricultural and civic groups, and serves as a showplace for talent and beauty contests, and professional entertainment.

The local manager or power use adviser wound up the list of

speakers. He explained the policies of the cooperative, explained power rates and membership fees. Special programs were outlined. Buying incentives in the local area were listed and dealers were urged to use them as sales-clinchers. Space for exhibiting merchandise in the co-op lobby was offered, and cooperation promised for any reasonable promotion dreamed up by a dealer.

Of course, questions were invited during these discussions and usually these brought up more points that enlightened the dealers.

These dealer meetings in South Carolina have shown cooperatives, dealers, distributors and manufacturers that working together points the road to success for them and more convenience for co-op consumers.

POWER USE EXCHANGE



LAKE PARK — Work is being completed for a community park on the Lake Flambeau property of Dairyland Power Cooperative, La Crosse, Wis. Dairyland has graded and leveled the park area, cleared a site for a boat landing, installed a well, and entered into a lease arrangement with the City of Ladysmith for operation. The Ladysmith Community Club has constructed picnic tables and barbecue pits in the park, and the Towns of Dewey and Flambeau have improved and are maintaining the roads at the edge of the park. Thus, through a rural electric co-op's action, facilities of the park and lake are available for picnicking, fishing, and recreational purposes. Co-op officials feel that the park will stimulate

construction on the two-thirds of the lake shoreline which is privately owned.

MEN AT WORK—Since opening its new service department in January, Codington-Clark Electric Cooperative, Watertown, S. Dak., reports that Ken Ohlsen, farm serviceman for the co-op, has been kept busy full time and has required an extra helper part time. In addition to repairing appliances and other electric farm equipment at the service bench in the co-op office, the servicemen provide after-hours emergency repair service on equipment or farm electric systems, and perform minor wiring jobs if members cannot get electricians to do the job.

SLOW DOWN — In 26 villages served by Nodak Rural Electric Cooperative, Grand Forks, N. Dak., signs installed by the co-op provide a name tag for the town and urge protection for its children by motorists. The signs create good will for Nodak among its village members.

* * *

BARBECUE BAIT — A barbecue with good advance publicity in *Sioux Valley Electric* and at 11 district meetings helped bring out a crowd of more than 7,200 people to the summertime annual meeting of 7400-member Sioux Valley Empire Electric Associa-

tion, Colman, S. Dak. Here visitors saw electric equipment exhibits and freezer and heating demonstrations, ate nearly 3 tons of barbecued chicken for supper, conducted the business of the co-op, and more than 2,000 members returned home with \$53,770 in cash dividends in their pockets. A crew of about 30 SVEEA employees and 50 women from Colman barbecued nearly 7,500 half chickens on four large barbecue pits using 150 gallons of barbecue sauce. They served the barbecue along with 80 gallons of pickles, 300 pounds of potato chips, 300 pounds of butter, 7,500 buns, and 7,500 cups of ice cream.

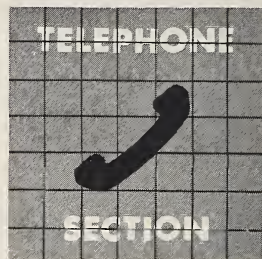
Norman H. McFarlin **Named Assistant Administrator**

NORMAN H. MC FARLIN, former Montezuma, Iowa, telephone executive, has been appointed an assistant administrator of REA by Administrator David A. Hamil.

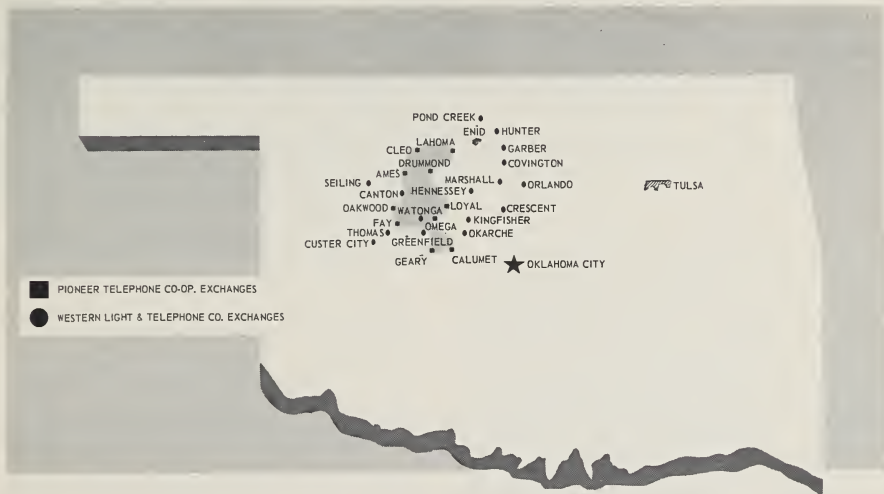
Mr. McFarlin, who has already taken office, is in immediate charge of the rural telephone program.

His experience in the telephone field includes 11 years as secretary, vice president, and general manager of the Montezuma Mutual Telephone Company. He was also a member of the Iowa Independent Telephone Association, and practiced law as a member of the firm of McFarlin and McFarlin in Montezuma.

He served with the Air Force in World War II and is a graduate of Grinnell College, Grinnell, Iowa, and the law school of the University of Iowa.



"GOOD TELEPHONE SERVICE IS CATCHING"



Shaded portion indicates Pioneer service area before Western acquisition.

FARMER-DIRECTORS of the REA-financed Cimarron Electric Co-operative at Kingfisher, Okla., little knew what it would lead to when they decided to help farm members get better telephone service back in 1950.

They couldn't have foreseen that Manager Roy Boecher, who had helped build their co-op into Oklahoma's largest, could double in brass and work similar magic with an entirely different type of rural utility.

Nor would they have dreamed that the first sample of dial telephone service would create dissatisfaction with outmoded telephone service.

But these happened after they launched the Pioneer Telephone Cooperative in 1953. From a nucleus of four exchanges at Loyal, Omega, Fay and Oakwood, the precocious telephone co-op has grown in five years to a young giant of 25 exchanges and more than 11,000 subscribers.

From this remodeled office on Kingfisher's "utility row," Pioneer staff directs fast-growing rural telephone system.





Bent-pole line (above) and single wire nailed to fence post (right above) are typical of rural outside plant on acquired exchanges. After conversion, Pioneer will use present Kingfisher exchange and office building (below) for toll center and storage. New structure will be built to house dial equipment.



Fifteen exchanges and 7,500 subscribers were added this year when Pioneer acquired all the Oklahoma telephone properties of the Western Light & Telephone Company. As the map indicates, growth has radiated outward from the first exchange at Loyal, which Pioneer acquired late in 1954. Farmer interest in better telephone service became epidemic after Loyal cut over to dial in November 1956.

The improved service available from Pioneer's new dial exchanges stimulated demand for similar service in the WL&T exchange areas. Farmers, particularly those on run-down switcher lines, were heard from most often. But civic organizations and chambers of commerce in WL&T towns





Business places in Hunter will have telephone service as modern as their street lights and customers' cars.

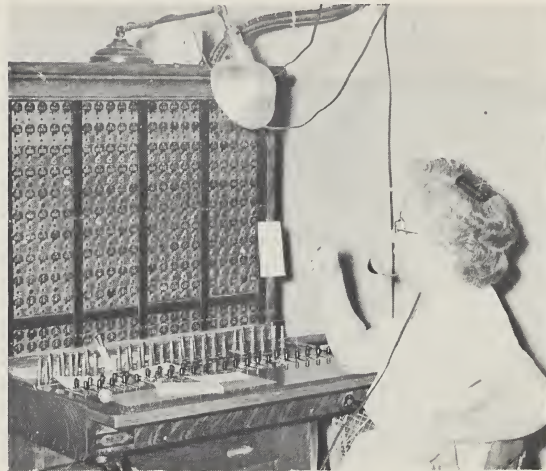
Mrs. Meta Hughes, operator-agent at Hunter, will retire when unattended dial exchange replaces this board.

also approached Pioneer directors and management to ask help in getting modern telephone service.

Pioneer meanwhile had acquired independent exchanges at Geary, Calumet, Ames, Cleo Springs, Drummond and Lahoma, and obtained additional REA loans to improve and extend service from these points. The Western system would tie in logically with Pioneer's ten exchanges and create a more efficient and economical operation. A sales agreement was signed late in 1957 after months of discussion and negotiation.

Pioneer is moving quickly to give farmers and other rural subscribers the quality service they want. Chief mover is Truman Wood, assistant manager, and a native of Kingfisher, who learned the telephone business as an employee of WL&T.

Under Boecher-Wood supervision, the expanded Pioneer organization has completed sign-up in the old WL&T territory and begun reconstruction. Prospect of better service helped canvassers sign up a total of 605 in the Seiling exchange, including the 327 existing subscribers. The overall increase for the 15 WL&T ex-



changes averages 10 percent, with most of this coming from unserved farms.

"Farm people are the biggest gainers in this program," Truman Wood says.

"We were surprised to find that toll revenues doubled after cut-over. We found that rural people accounted for the increase. You can bet that they wouldn't use long distance if they didn't save or make money on it.

"Good telephone service is catching, so Pioneer will continue to grow and to serve more rural people," he added. And from the record, he knows what he is talking about.

Central Office Maintenance

by Robert W. Eddy, REA Staff Engineer

NO matter whether your dial system is already in operation or is about to be placed in service, you need a definite program for maintenance. No matter whether your system employs mechanical switches or relays, certain parts are subject to wear. Wear makes maintenance imperative.

Just consider the amount of money you have invested in your dial equipment, as well as the obligation you assumed when you agreed to furnish telephone service in your community. You must discharge that obligation. To obtain the best possible service from your equipment, you will need to take more than a passing interest in its welfare.

There are, essentially, two general types of maintenance—"preventive" and "corrective." Preventive (or routine) maintenance consists of periodic tests and inspections to locate and eliminate nonstandard conditions *before* they became a source of trouble. Corrective maintenance (or trouble shooting) is the day-to-day action necessary to locate and remove the causes of *existing* troubles — a strictly "demand type" of service that cannot be planned in advance.

In order to meet the stipulations in the REA dial central office specification, the equipment manufacturer must provide a list of recommended tests and inspections which apply to his equipment and suggest how often these routine inspections should be

made. Since these recommendations come from an authoritative source, it is correct to accept them as a guide in establishing your initial preventive maintenance program.

To implement your program, you must have the proper tools and test equipment, specific drawings and maintenance information which apply to the particular system involved, as well as personnel with sufficient "know-how" to put the manufacturers' recommendations into practice. It may be assumed that the tools, test equipment, drawings, and maintenance information have been provided by the manufacturer as a part of the C.O.E. contract. But what about the maintenance man?

At the time when the dial C.O.E. specifications are being prepared, management should be on the lookout for likely prospects for the job of dial central office maintenance man. Candidates should have a high school education and, if possible, some previous experience with dial central office equipment.

Immediately following award of contract to purchase the dial central office equipment, arrangements should be made with the manufacturer to send the candidate selected to the factory for training. Whenever possible, this training should be scheduled so that the maintenance man will finish in time to help the manufacturers' personnel install the borrower's dial equipment, and to

assist in the testing and cutover of the dial system.

There will doubtless be instances in which an individual system may not be able to justify, economically, the hiring of an individual for the sole purpose of maintaining the dial central office equipment. In the past this problem has been solved by using a "combination man" whose time is divided between inside and outside plant maintenance. Often the combination man is given responsibility only for corrective maintenance on the dial central

office equipment. Preventive dial C.O.E. maintenance is often obtained in such instances on a contract basis from the dial equipment manufacturer or a private service organization.

Implementation of a dial central office routine maintenance program would not be complete without a coordinated procedure for recording the results of the various tests and for keeping track of subscriber trouble complaints.

(This is the first of two articles on central office maintenance.)

Georgia Borrower Installs State's 1,000,000th Phone

GUEST-OF-HONOR at a recent banquet in Homerville, Ga., was that smart-looking gray telephone on the dais, being honored as Georgia's one millionth telephone.

It is shown being tested by Crawford Pilcher (left), Georgia Public Service Commissioner, and one of the guests of Downing Musgrove (right), who is president of the Homerville Telephone Co., Inc., as well as president of the Georgia Telephone Association.

The Homerville firm, an REA borrower, presented the specially inscribed telephone to the Standard Container Co., one of the State's newest industries. Steve Bawkin, plant superintendent of Standard Container, chose gray to blend with the green furnishings in his office. His company's move to Homerville last year was a result of Homerville's efforts to attract new industry to the community. Not the least of the town's attractions is its modern telephone service.



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